MMM SPECIAL SEMINAR

Recent Developments in Atmospheric River Science and Applications: From Forecast Challenges to an Airborne Reconnaissance Program and a Scale for Atmospheric Rivers

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Atmospheric rivers (AR) play key roles in the global water cycle, from horizontal water vapor transport, to precipitation, water supplies and flooding. This presentation will describe selected recent developments in understanding, observing and predicting atmospheric rivers and their associated precipitation, as well as use of AR information.

Although usable skill in atmospheric river prediction exists, so too do serious gaps. The flooding from February 2019 on the U.S. West Coast will be used to illustrate this, including the role of a key mesoscale phenomena that contributed to the stalling of the AR over the Russian River. This stalling focused the precipitation geographically, causing up to 20 inches of rain. Studies have pointed to errors in initial conditions in atmospheric river characteristics offshore as the leading source of error in forecasts of extreme precipitation associated with AR landfall. To address this a multi-year airborne reconnaissance program, "AR Recon" is underway. To date 15 missions have been conducted with either 1, 2 or 3 aircraft simultaneously releasing dropsondes in and around ARs and the associated phenomena that influence their development and landfall. Data assimilation efforts are being conducted to assess their impacts on model forecasts. AR Recon involves scientists and forecasters from Universities, NCAR, NRL, NCEP and ECMWF.

Applications of atmospheric river information will also be summarized, including description of a scale for atmospheric river intensity and impacts intended to enhance situational awareness for the public and decision makers.

*Monday, 18 March 2019, 2:00 PM *Please note special day and time

Refreshments 1:45 PM

NCAR-Foothills Laboratory, 3450 Mitchell Lane, FL2-1022, Large Auditorium

This seminar will be webcast live at:
http://ucarconnect.ucar.edu/live

Recorded seminar link can be viewed here:
https://www.mmm.ucar.edu/events/seminars